

JUNIPER MIST EDGE DATASHEET



Product overview

Juniper Mist Edge extends microservices to the campus network for agility and scale while enabling new applications at the edge. Juniper Mist Edge uses the Juniper Mist cloud and its distributed software architecture for:

- scalable and resilient operations*
- management*
- troubleshooting*
- analytics*

Extend the power of the microservices cloud to the campus and enable new applications at the network edge —without the need for legacy wireless controllers.

Product Description

Juniper®, powered by Mist™ AI, has brought true innovation to the wireless space with the world's first AI-driven wireless LAN (WLAN). Our AI-driven network makes Wi-Fi predictable, reliable, and measurable, offering unprecedented visibility into the user experience through customizable service-level expectation (SLE) metrics. Proactive, AI-driven automation and self-healing actions replace time-consuming manual tasks, lowering Wi-Fi operational costs and saving substantial time and money.

Juniper also brings enterprise-grade Wi-Fi, Bluetooth® Low Energy (BLE), and IoT together so businesses can increase the value of their wireless networks through personalized location services, such as wayfinding, proximity notifications, and asset location. With Juniper's patented virtual BLE (vBLE) technology, no battery beacons or manual calibration are required.

All operations are managed via Juniper's open and programmable microservices cloud architecture driven by Mist AI. This delivers maximum scalability and performance while also bringing DevOps agility to wireless networking and location services.

The Juniper Mist Cloud Architecture and Key Components

Our cloud-native, AI-driven microservices architecture delivers unparalleled agility, scale, and resiliency to your network. It lowers OpEx and delivers unprecedented insights into network performance, behaviors, traffic patterns, and potential trouble spots by using data science to analyze large amounts of rich metadata collected by [Juniper Access Points](#).

Juniper Access Point Family

The Juniper enterprise-grade access point family consists of:

- [AP45](#) Series, [AP34](#), and [AP24](#), which support Wi-Fi 6E, 802.11ax ([Wi-Fi 6](#)), and Bluetooth LE
- [AP43](#) Series, [AP32](#), [AP33](#), [AP12](#), [AP63](#), and AP64 Series, which support 802.11ax ([Wi-Fi 6](#)) and Bluetooth LE

These access points are all managed by the real-time microservices based in Juniper Mist cloud.

Juniper Mist Edge

Some network services require specific functions be handled on-premises, due to bandwidth, latency, or architecture requirements. Juniper Mist Edge extends select microservices to the customer premises while using the Juniper Mist cloud and its distributed software architecture for scalable and resilient operations, management, troubleshooting, and analytics.

For large campus networks, Juniper Mist Edge provides data plane centralization and seamless roaming through on-premises tunnel termination of traffic to and from access points, while keeping all the control and management functions in the Juniper Mist cloud.

Juniper Mist Edge extends VLANs to distributed branches and telecommuters, replacing remote VPN technology, and it provides dynamic traffic segmentation for IoT devices. Split tunneling enables separation of guest access and corporate traffic.

The Juniper Mist Edge architecture offers several key benefits:

- Agility to develop and deploy new microservices rapidly
- Scalable platform to meet demands of small and large campuses
- Deployment and management simplicity
- Stateless architecture for quick failover
- Service upgrades within seconds
- Decoupled service deployment from AP firmware
- Zero-touch configuration and cloud management

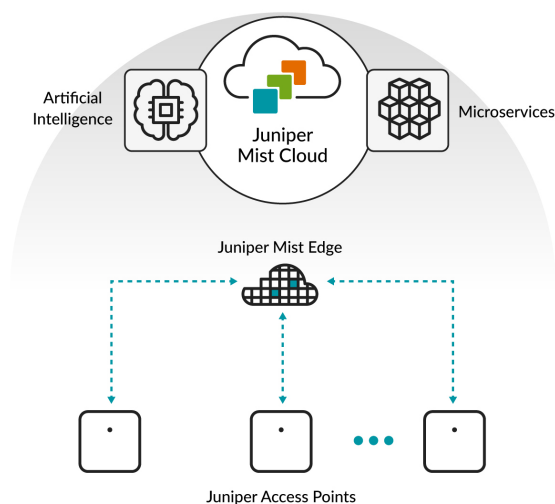


Figure 1: AI-Driven Enterprise Solution with Juniper Mist Edge

Juniper Mist Edge is deployed as a standalone appliance with multiple variants for different size deployments. A software-only virtual machine (VM) solution is also available for added design flexibility.

Features and Benefits

Tunneling Microservices

This service lets you make a seamless transition, moving from an existing centralized data plane with legacy controller architectures to the modern Juniper Mist microservices cloud, without impacting network design.

The access points use standards-based L2TPv3 technology or IPsec in a teleworker scenario to tunnel traffic to and from the Juniper Mist Edge for selected WLANs. This provides the network design flexibility to use a combination of distributed and centralized data planes, where needed, to meet customer requirements. A deployment with Juniper Mist Edge can support locally bridged and tunneled WLANs.

The service enables you to preserve the VLAN configuration at your edge switches while transitioning to a Mist microservices cloud architecture. You accomplish this by tunneling your traffic through a centralized cluster of Juniper Mist Edge devices while maintaining the ability to separate SSIDs and users onto different VLANs.

The service also supports seamless mobility for devices running latency-sensitive applications, allowing them to maintain performance as they roam across the campus. A Juniper Mist Edge cluster will operate intelligently to deliver scalable and reliable performance by optimizing broadcast and multicast traffic delivery.

Configuration of the tunnels is also simplified through the power of the Juniper Mist cloud and its zero-touch provisioning capabilities.

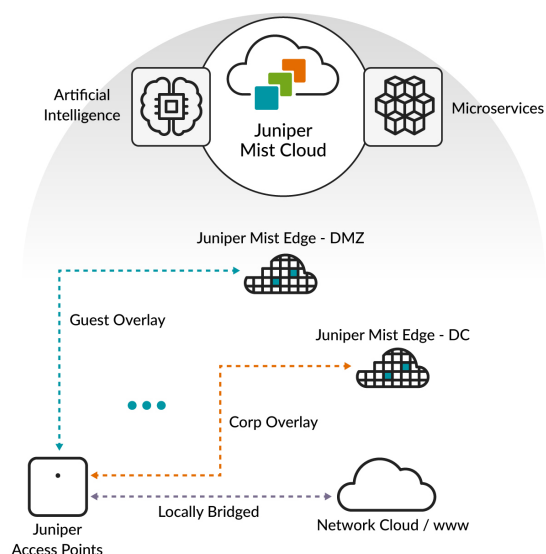


Figure 2: Multiple tunnels from Juniper access points

Tunneled WLANs and Flexible Traffic Redirection

Many times, Wi-Fi deployments have the requirement to bridge the WLAN locally as well as support a separate overlay for guest access and the corporate wireless network traffic. The Juniper Mist microservices architecture provides the flexibility to form multiple tunnels to different Juniper Mist Edge appliances based on the wireless configuration requirements. For instance, one site of the WLAN could be bridged locally, a guest WLAN could be tunneled to the DMZ (Juniper Mist Edge), while the corporate SSID is tunneled to the data center (Juniper Mist Edge) for access to corporate resources.

High Availability and Clustering

Juniper Mist Edge supports an elastically scalable cluster (with options for backup clusters) composed of an unlimited number of nodes within a cluster. The Juniper Mist Edge cluster design for the tunneling microservice is guided by the aggregate capacity considerations based on number of access points, number of clients, and throughput expectations.

Active/active tunneling clusters deliver higher availability and resiliency than traditional N+1 standby architectures and ensure redundancy while balancing the AP between Mist Edges with zero idle capacity. Mist Edge supports multiple layers of redundancy to ensure WLAN survivability in the event of a catastrophic network failure. Multiple Mist Edge nodes within a cluster allow APs to associate to any surviving node in the event of a failure. If an entire cluster goes off-line within a data center, Mist APs can fail-over to a different cluster hosted in a different data center to assure network survivability.

Additionally, Mist Edge architecture flexibility allows for the standby cluster for one site to be the Primary cluster for another site, to fully utilize the resources and reduce operating cost.

Juniper Access Points separate the control and management functions from the data plane and will continue to function even if the connection to the Mist Edge goes down.

Appliance Model and Specifications

Table 1: Juniper Mist Edge Specifications

Model	Max AP / Client / Throughput	Interface
ME-VM	500 / 5,000 / 2 Gbps	Dual-Port 1GbE (Data) and Dual-Port 1GbE (Mgmt)
ME-X1	500 / 5,000 / 2 Gbps	Dual-Port 1GbE (Data) and Dual-Port 1GbE (Mgmt)
ME-X1-M	500 / 5,000 / 4 Gbps	Quad-Port 1GbE (Data) and Dual-Port 1GbE (Mgmt)
ME-X5	5,000 / 50,000 / 20 Gbps	Dual-Port 10GbE SFP+ (Data) and Dual-Port 1GbE (Mgmt)

Model	Max AP / Client / Throughput	Interface
ME-X5-M	5,000 / 100,000 / 40 Gbps	Quad-Port 10GbE SFP+ (Data) and Dual-Port 10GbE SFP+ (Mgmt)
ME-X6	5,000 / 100,000 / 100 Gbps	Quad-Port 25GbE SFP28 (Data) and Quad-Port 25GbE SFP28 (Mgmt)
ME-X10	10,000 / 100,000 / 40 Gbps	Quad-Port 10GbE SFP+ (Data) and Dual-Port 10GbE SFP+ (Mgmt)

To assess whether the Juniper Mist Edge is a fit for your AI-driven enterprise, please contact your local Juniper partner or representative who can help you architect your next-generation network.

Ordering Information

Part Numbers	Description
Appliance	
ME-X1	Mist Edge Appliance, 2x1Gbps, Supports 500 Access Points
ME-X1-M	Mist Edge Appliance, 4x1Gbps, Supports 500 Access Points
ME-X5	Mist Edge Appliance, 2x10GBASE-X (SFP+), Supports 5000 Access Point
ME-X5-M	Mist Edge Appliance, 4x10GBASE-X (SFP+), Supports 5000 Access Points
ME-X6	Mist Edge Appliance, 4x25GBASE-XX (SFP28), Supports 5000 Access Points
ME-X10	Mist Edge Appliance, 4x10GBASE-X (SFP+), Supports 10,000 Access Points
Virtual	
ME-VM	Mist Edge VM, Supports 500 Access Points
ME-VM-OC-PROXY	ME-VM supporting 10,000 Switches proxy
Subscription	
S-ME-S-x	SW, Mist Edge Assurance (SUB-ME) Standard, per AP sub
Extended warranty	
ME-ADV-XCH-xx	Annual extended hardware support for Mist Edge

For information on warranty, refer to - <https://support.juniper.net/sites/support/pdf/warranty/juniper-mist-wifi-warranty.pdf>

ME-X1	
Dimensions and Power	
Form factor	1U with 1U/2U Static Rails for 2-Post and 4-Post Racks
Size (W x D x H)	17.1" (W) x 22.6" (D) x 1.69" (H)
Weight	12.2 kg (26.9 lbs.)
Power supply Unit	Single, Cabled Power Supply, 250W, 100–240 V AC, autoranging, 50/60 Hz
Maximum power draw (estimated)	175 watts
Idle power draw (estimated)	70 watts
Heat Dissipation (maximum)	1725 BTU/hr
Power cord	Available for all homologated countries Default - NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, North America
Environmental Parameters	
Standard Operating Temperature	10–35°C (50–95°F)
Ambient Temperature Restriction	30°C

ME-X1

Mean time between failures (MTBF) 170,000 hours

ME-X1-M

Dimensions and Power

Form factor	1U with 1U/2U Static Rails for 2-Post and 4-Post Racks
Size (W x D x H)	17.1" (W) x 22.2" (D) x 1.69" (H)
Weight	12.48 kg (27.51 lbs.)
Power supply Unit	Single, Cabled Power Supply, 450W, 100–240 V AC, autoranging, 50/60 Hz
Maximum power draw (estimated)	387.5 watts
Idle power draw (estimated)	134 watts
Heat Dissipation (maximum)	1725 BTU/hr
Power cord	Available for all homologated countries Default - NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, North America

Environmental Parameters

Standard Operating Temperature	10–35°C (50–95°F)
Ambient Temperature Restriction	30°C
Mean time between failures (MTBF)	170,000 hours

ME-X5

Dimensions and Power

Form factor	1U with Ready Rails Sliding Rails for 2/4-post Racks
Size (W x D x H)	18.98" (W) x 31.8" (D) x 1.69" (H)
Weight	21.9 kg (48.28 lbs.)
Power supply Unit	Dual, Hot-plug, Redundant Power Supply (1+1), 750W, 200-240 V AC, 50/60 Hz
Maximum power draw (estimated)	267 watts
Idle power draw (estimated)	131 watts
Heat Dissipation (maximum)	2843 BTU/hr
Power cord	Available for all homologated countries Default - NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, North America

Environmental Parameters

Standard Operating Temperature	10–35°C (50–95°F)
Ambient Temperature Restriction	30°C
Mean time between failures (MTBF)	145,000 hours

ME-X5-M

Dimensions and Power

Form factor	1U with Ready Rails Sliding Rails for 2/4-post Racks
Size (W x D x H)	18.98" (W) x 31.8" (D) x 1.69" (H)
Weight	21.9 kg (48.28 lbs.)
Power supply Unit	Dual, Hot-plug, Redundant Power Supply (1+1), 750W, 200-240 V AC, 50/60 Hz
Maximum power draw (estimated)	315 watts
Idle power draw (estimated)	131 watts
Heat Dissipation (maximum)	2843 BTU/hr

ME-X5-M

Power cord	Available for all homologated countries Default - NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, North America
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Environmental Parameters

Standard Operating Temperature	10–35°C (50–95°F)
Ambient Temperature Restriction	30°C
Mean time between failures (MTBF)	151,000 hours

ME-X6

Dimensions and Power

Form factor	1U with Ready Rails Sliding Rails for 2/4-post Racks
Size (W x D x H)	18.98" (W) x 18.8" (D) x 1.69" (H)
Weight	13.6 kg (29.9 lbs.)
Power supply Unit	Dual, Hot-plug, Redundant Power Supply (1+1), 800W, 100–240 V AC, autoranging, 50/60 Hz, 6.5 A-3.5 A
Maximum power draw (estimated)	490 watts
Idle power draw (estimated)	105 watts
Heat Dissipation (maximum)	3139 BTU/hr
Power cord	Available for all homologated countries Default - Power Cord - C13, 3M, 125V, 15A (North America, Guam, North Marianas, Philippines, Samoa, Vietnam)

Environmental Parameters

Standard Operating Temperature	-5–55°C (23-131°F)
Ambient Temperature Restriction	55°C
Mean time between failures (MTBF)	231,000 hours

ME-X10

Dimensions and Power

Form factor	1U with Ready Rails Sliding Rails for 2/4-post Racks
Size (W x D x H)	18.98" (W) x 31.8" (D) x 1.69" (H)
Weight	21.9 kg (48.28 lbs.)
Power supply Unit	Dual, Hot-plug, Redundant Power Supply (1+1), 750W, 200-240 V AC, 50/60 Hz
Maximum power draw (estimated)	449 watts
Idle power draw (estimated)	267 watts
Heat Dissipation (maximum)	2843 BTU/hr
Power cord	Available for all homologated countries Default - NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, North America

Environmental Parameters

Standard Operating Temperature	10–35°C (50–95°F)
Ambient Temperature Restriction	30°C
Mean time between failures (MTBF)	99,400 hours

About Juniper Networks

At Juniper Networks, we are dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security and AI to drive real business results. We believe that powering connections will bring us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability and equality.

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